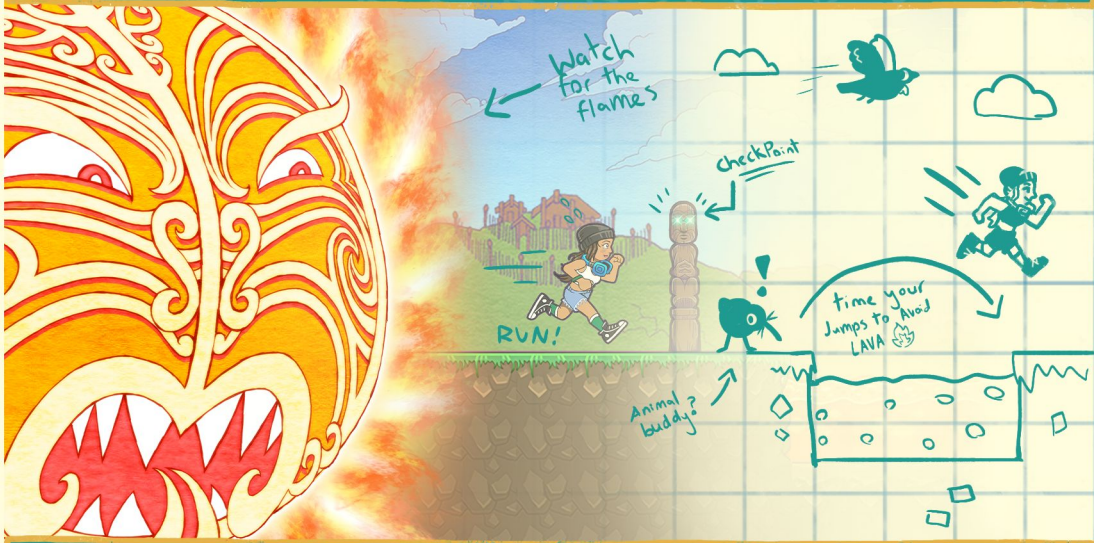




TE HIKO TĀKARO

So you want to be a
game designer?



Book 2 of 2
Game Design and
your local curriculum

Dan Milward and Gerard MacManus





FORWARD

Te hiko Tākaro is dedicated to tomorrow's game developers and made by these guys.



Gerard MacManus

In 2018 Gerard was presented with the Outstanding Educationist award. Gerard is an experienced learning designer and digital technologies teacher. He is also Dan's favorite teacher.



Dan Milward

Dan is a games industry veteran who specialises in games-based learning and has worked on dozens of video games. He is heavily involved in the NZ games industry and is passionate about making education fun through video games.

This book was made in partnership with NZ game dev experts, digital technology curriculum teachers and the Ministry of Education.

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WHAT'S IN THIS BOOK?



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DESIGNING AND DEVELOPING A DIGITAL OUTCOME (DDDO)

So you have learned some coding concepts in booklet one, 'How to code a 2D video game', it is time to learn about game design.

This booklet is the second booklet in the series. It will help you think like a game designer and complete your own game design document.

This resource defines a process that takes you on a journey of design, development, product testing and evaluation.

Your mission is to design a 2D video game that can be built and played within a cloud-based gaming platform!



By the end of this booklet you will be ready to come up with your own design for a 2D video game!



DESIGNING THROUGH A NEW ZEALAND LENS

NZ developers look at the world with diverse and unique perspectives! Kiwis are bringing our designs and culture to an international games industry worth over \$258 billion!



Think about how Aotearoa can have a strong voice in this fast-changing world where video games, AI, VR and AR are an everyday part of life.

Have you ever wondered how a New Zealander goes from being a consumer of video games to a creator of video games?

Can you think of any video games that have a New Zealand context? How do you think people could learn about Aotearoa and experience our unique stories through video games?

Who better to create Kiwi games than you, Aotearoa's rangatahi and tamariki? Tomorrow's game developers!





WHAT IS A GAME?

9 A game is cooperative and/or competitive play within a set of rule-based challenges.

But that definition isn't much help when you want to design and develop a game.

Just like a builder needs to know the methodology of building a house (foundation, walls, roofing), a game designer has to know what concepts are used in designing a game.

Throughout time and across cultures, most games have had the same six parts.

CORE MECHANICS

What core action needs to be performed by the player so they can make progress in the game?

Jumping? Dodging? Throwing? Searching?
Problem-solving? Constructing? Anticipating?



CHALLENGES

What obstacles could you put in the player's way to make reaching the goal harder, and also more fun and interesting?

The player is tied to a teammate's leg?
The player must avoid touching a dangerous enemy or object? A player must complete a task with reversed controls?



Player jumps to avoid obstacles



Hides in shell when hurt



Secret Pipe



RULES

What limits define what a player can and cannot do in the game?

Player must reach the goal within a time limit. You only have three attempts to complete a challenge. Players are only out if they are hit by a ball in the midsection or legs.



*fluffy clouds
may hold secrets*

OBJECTIVES

Objectives: What does a player or team have to do to win the game?

Defeat the boss? Cross the finish line first? Collect the most marbles? Be the last player still standing?

SETTING

Where does the game take place and how does that setting affect the game?

A faraway kingdom? A basketball court? A laned running track? Inside your kitchen fridge?

*Extra
Points if
you hit
the top*

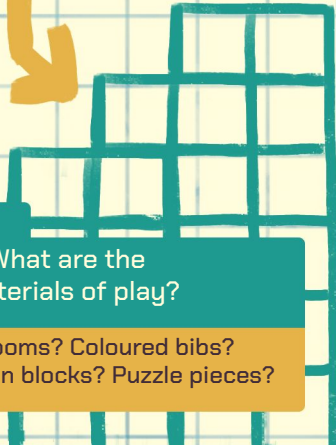


*Mushroom
moves away from
Player*

COMPONENTS

Components: What are the pieces and materials of play?

Powerup mushrooms? Coloured bibs? Marbles? Wooden blocks? Puzzle pieces?





WHAT IS A VIDEO GAME?

1 A video game is an interactive digital outcome that combines the six game design components to make up a game.

Video games are a sophisticated and highly engaging medium for telling stories and sharing knowledge.

The '2D Platformer Game' is a genre of video game. It has been with us since the dawn of video games in 1947. Platformers were made popular by Super Mario Brothers and Nintendo in the 1980s, and they are still made and played today!

In a platformer game the player-controlled character is likely to be found jumping and climbing between suspended platforms while avoiding obstacles and traps.



Games can tell stories too!

Among platformers there is a subgenre called the story-driven adventure game. In this type of game, the player explores and experiences a story through a combination of interactive oral, visual and written texts.

What stories do you think you could tell through the medium of a 2D platformer game?





WHAT IS GAME DESIGN?

Game design is the non-coding, concept construction side of game creation.

A game designer asks questions like

What is the game about?

What will the player do in the games?

How will the game world look and feel?

How will the player be challenged?

How will the player be rewarded?

For example, when designing a story-based game, approach it like creating a new haunted carnival ride.

What terrible thing happened to make this place haunted? What sinister mystery do you want the players to solve? How are you going to both scare and thrill your players? How are the players going to escape this haunted place?



Lakeside amusement park
(Silent Hill 3)



AOTEAROA STORIES

9 You can design a game about anything. But your challenge is to tell an Aotearoa story through a 2D platformer game!

Could you use your local knowledge and the New Zealand stories you already know? What about our homegrown legends? Can you think of any difficulties you might encounter when using traditional stories in your game design?



KUPE

How might you reimagine a piece of New Zealand history? Could you share the story of one of your own ancestors through a game? Could you ask your whanāu about their stories?

CAPTAIN GHOST COOK



Think about the things you love (or don't love) about Aotearoa. Would they be fun to include in a game? What are the challenges you might face when expressing local issues? Can you think of anyone who could help you deal with sensitive New Zealand topics through a 2D platformer?



Here's some Kiwi-made games for inspiration.



Barefoot Bandits

<https://bit.ly/nzbandits>



The Blockheads

<https://theblockheads.net/>



GRAB↓↑4

Grability Game

<https://www.grabilitygame.com/>





INDIGENOUS GAMES AND STORIES

Never Alone

In 2014, the first high quality indigenous platformer game, *Never Alone*, was released for the Sony Playstation.

The game was co-developed by the Inuit peoples of Alaska, and E-Line Media. The game was a global hit and was later released on both mobile and PC.



1 *Never Alone* has won numerous international awards for game design and digital storytelling.

Why was *Never Alone* made?

Never Alone is based on sacred Alaskan stories that have been passed down from one generation to the next for centuries. Tribal elders noticed that their young people were reluctant to hear the old myths and legends, and turned to video games as a way to tell the ancient stories in a new and engaging way.



Imagine how great it would be to experience New Zealand stories in this way!



ANALYSIS ACTIVITY

Game designers play games to understand games.

Never Alone

Before you start making games, it's important to learn from games that already exist. Let's take a successful 2D story-driven platformer and tear it apart!



See a full playthrough here: [Bit.ly/never-alone-tut](https://bit.ly/never-alone-tut)

Write a description of the game, *Never Alone*, using the questions below to guide you.

Setting

Think about the most important features in this game's setting.

- ? What is it about the look and feel of the game world that stands out?
- ? How does the setting affect how you play the game?
- ? Why was this particular setting chosen by the game developers?

Components:

Consider how the characters fit into the world of the game.

- ? What is the relationship between the two main characters?
- ? How does their relationship affect the gameplay?
- ? Why do you think the developer chose these two characters for the player to control?



Objectives

Consider what the player is expected to achieve in Never Alone.

- ❓ What do you think Never Alone wants the players to experience other than pure “fun”?
- ❓ What part do the Inuit stories play in the objectives of Never Alone?
- ❓ Can you summarise what Never Alone is about in one sentence?

Core Mechanics

Consider how the player interacts with Never Alone.

- ❓ What are the main actions that the two playable characters can perform?
- ❓ How do the mechanics of the two playable characters differ and work together?
- ❓ Consider how the mechanics help the player emotionally connect with the characters.

Rules

Consider the limits imposed on the player during Never Alone.

- ❓ How does the game world and mechanics limit what the player can do and where they can go?
- ❓ What events occur when a player fails at the challenges?
- ❓ Why do you think it is important for a game like Never Alone to have defined limits?

Challenges

Think about the challenges that are in Never Alone.

- ❓ What sort of challenges does the game environment present to the player?
- ❓ How do the other characters in Never Alone challenge the player?
- ❓ What are the ways the player is rewarded when they overcome challenges?



MASHUP ACTIVITY

Time to come up with your own 2D platformer idea!

Mashup a game

Game design can start by taking what you already know and combining it in new and interesting ways.

The Mashup is a way to help stimulate new ideas. It works by mashing existing things together to make something 'new'.

What are three Aotearoa-themed ideas you can combine?

eg. My tūrangawaewae

eg. Legends of Māui

eg. Animals, Sports, Technology, etc...

Mash your three concepts together and then describe your concept!

For example - My game concept is...



Rotorua



Māui captures the sun



Freerunning



Revenge of Rā!

Angry Rā has escaped and is chasing Māui through the mud pools and geysers of Rotorua.



WALL O' GAMES ACTIVITY

Wall O' Games is a group-based lead up to the Mashup Activity.

The Wall O' Games activity is a fun way to draw out a group's collective knowledge about games. This knowledge can then be used as an ideas creation resource by the entire group.

The initial phase of a game design process is all about generating ideas. Most 'new' games are variations on existing games. Why not take inspiration from games you already know?



Read more: <http://bit.ly/wall-o-games>

Here's how it works:

Divide your 'wall' into three columns

- Digital Games
- Non-digital games
- Concepts of Aotearoa

Ask the group to think of all the digital and non-digital games, and NZ-flavoured concepts they already know. Each game and concept goes up on the Wall O' Games.



Your group now has an ideas creation resource to work with. Individuals can pick any of the games and concepts from the Wall O' Games, and use them in the Mashup Activity.

“WHAT’S IN A GAME?” CARDS

Looking for another way to come up with ideas for your 2D platformer game?

The ‘What’s in a game?’ card deck is a great resource for helping explore game design.



The Praxis Card Deck is a simple, plain-language card deck that could help you quickly grasp the huge breadth of possibilities that games can offer.

The card deck contains 30+ words or phrases that describe different things that games can be and do in terms of the player’s experience.

The cards can be used to play games - like “guess the game” - and they can be used to design games, helping designers think about the game experience they want their player to have.

Here’s the link to the downloadable pdf to print out your own set!

Get it > bit.ly/praxis-pdf

Or to learn more about Praxis Cards

Learn more > bit.ly/praxis-cards



GAME DESIGN DOCUMENT

What is a Game Design Document (GDD) and why do you need one before you make a video game?



A Game Design Document (GDD) is used in the games industry to help individuals or teams describe their game to others.

During a game's development, the level designers, artists, programmers, writers and producers all refer to the GDD so that everyone knows what sort of game they are making.

A Game Design Document literally keeps everyone on the same page.

Create your own!

Hopefully you have some ideas for your game. Now it is time to capture your 2D platformer concept in your own Game Design Document.

We've put together a **Workbook** for you to complete.

Get it > <https://takaro.gamefroot.com>

Open the document and click File > Make Copy

NEXT STEPS!

So you want to keep working with video games technology?

You might be wondering where to go from here. If you enjoyed this booklet, and you want to make games, the #1 best thing you can do is design and make more games! Here are some pro tips to help you along the way.



Buy Jesse Schell's **'Art of game design'** book and cards. A great tool for all game designers



Point your browser to YouTube and subscribe to Extra Credits, and The Game Makers Toolkit



Find a local meetup, connect with people like you, and create games together!



Subscribe to our mailing list for more updates on www.tehikotakaro.nz/subscribe/

With special thanks to...



Edwin McRae - Game writer



Josh Walker - Graphic designer



Tim Harford - Digital teach teacher



AKHB - Mystery support person



Laura Jones - Project manager



William Young - Gamefroot advisor



Professor Tim Bell - The CT Wizard



NOTES

Write your notes here...





A games industry partnership between



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